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08/356,229	12/19/94	NILSSON	R 06/18/94-50439

HM32/0618  
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EXAMINER	NGUYEN, H
ART UNIT	1641
PAPER NUMBER	21
DATE MAILED	06/18/98

Below is a communication from the EXAMINER in charge of this application  
COMMISSIONER OF PATENTS AND TRADEMARKS

#### ADVISORY ACTION

THE PERIOD FOR RESPONSE:

- a)  is extended to run 6 mths or continues to run \_\_\_\_\_ from the date of the final rejection  
b)  expires three months from the date of the final rejection or as of the mailing date of this Advisory Action, whichever is later. In no event however, will the statutory period for the response expire later than six months from the date of the final rejection.

Any extension of time must be obtained by filing a petition under 37 CFR 1.136(a), the proposed response and the appropriate fee. The date on which the response, the petition, and the fee have been filed is the date of the response and also the date for the purposes of determining the period of extension and the corresponding amount of the fee. Any extension fee pursuant to 37 CFR 1.17 will be calculated from the date of the originally set shortened statutory period for response or as set forth in b) above.

- Appellant's Brief is due in accordance with 37 CFR 1.192(a).  
 Applicant's response to the final rejection, filed 6/9/98, has been considered with the following effect, but it is not deemed to place the application in condition for allowance:

1.  The proposed amendments to the claim and/or specification will not be entered and the final rejection stands because:
  - a.  There is no convincing showing under 37 CFR 1.116(b) why the proposed amendment is necessary and was not earlier presented.
  - b.  They raise new issues that would require further consideration and/or search. (See Note).
  - c.  They raise the issue of new matter. (See Note).
  - d.  They are not deemed to place the application in better form for appeal by materially reducing or simplifying the issues for appeal.
  - e.  They present additional claims without cancelling a corresponding number of finally rejected claims.

NOTE: \_\_\_\_\_  
\_\_\_\_\_

2.  Newly proposed or amended claims \_\_\_\_\_ would be allowed if submitted in a separately filed amendment cancelling the non-allowable claims.

3.  Upon the filing of an appeal, the proposed amendment  will be entered  will not be entered and the status of the claims will be as follows:

Claims allowed: None  
Claims objected to: None  
Claims rejected: All off record

However:  
 Applicant's response has overcome the following rejection(s): 112(2) rejections of claims 1,2,14,21,15&16

4.  The affidavit, exhibit or request for reconsideration has been considered but does not overcome the rejection because See attached

5.  The affidavit or exhibit will not be considered because applicant has not shown good and sufficient reasons why it was not earlier presented.

- The proposed drawing correction  has  has not been approved by the examiner.  
 Other

## ADVISORY ACTION

1. Applicant's after final amendment filed 6/9/98 has been received. Claims 1-21 are pending.

### *Response to Arguments*

2. Applicant argues that Karube and Attridge differ from the instant invention because they do not teach a method of derivatizing a carbohydrate with an aglycon portion such that the carbohydrate will be functionally active as a receptor on a biosensor surface. This argument is not persuasive because the instant claims are not directed to a method of derivatizing a carbohydrate, instead the instant claims recite a biosensor and method of using the biosensor comprising a carbohydrate derivative with an aglycon portion, which carbohydrate is taught by Nilsson.

Applicant argues that Nilsson does not teach binding of the carbohydrate to the biosensor via the aglycon portion. This argument is not persuasive because Nilsson taught the same carbohydrate derivatives as those of the instant invention, column 4, lines 2-17, and Nilsson taught coupling the carbohydrates to proteins or lipids (column 3, line 35) or to solid carriers (column 7, line 28), and Attridge et al teach the use of sensor to immobilize a carbohydrate, therefore, a skilled artisan would have had a reasonable expectation of success in immobilizing the carbohydrates of Nilsson on the biosensor of Attridge et al because the solid carriers of Nilsson et al is seen to be functionally equivalent to the solid sensors of Attridge et al. Further, a skilled artisan, using immobilization methods well known in the art to immobilize the carbohydrates of Nilsson would have resulted in a surface having a carbohydrate immobilized via the aglycon portion because the carbohydrates of Nilsson are the same with those of the instant invention, therefore, they would be expected to have the same inherent binding properties.

Applicant argues that Nilsson does not teach a carbohydrate-R-X biosensor or carbohydrate-R-X-protein-biosensor configurations of claims 18 and 19. This argument is not persuasive because Nilsson clearly teaches that amino groups are readily convertible into several other reactive groups, such as isothiocyanate, diazo, N-bromoacetate or other groups, which directly or after chemical modification, may be used as spacer arm, and which are also useful as aglycon. Without further clarification as to what "X" represents, it is seen that X is the same as

the spacer arm/aglycon of Nilsson. Nilsson further teaches that the carbohydrate may be directly or after chemical modification bound to enzymes or proteins, and Karube teaches biosensors having antibodies immobilized thereon are well known in the art; therefore, a skilled artisan would have had a reasonable expectation of success in immobilizing the carbohydrate of Nilsson on the sensor of Karube.

In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

3. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Bao-Thuy Nguyen whose telephone number is (703) 308-4243. The examiner can usually be reached Monday through Thursday, from 8:30 AM to 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Housel, can be reached on (703) 308-4027. The fax phone number for this Group is (703) 308-4242 or (703) 305-3014.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-0196.

BTN  
June 17, 1998

*Christopher L. Chin*  
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PRIMARY EXAMINER  
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